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ABSTRACT

For years language teachers have conducted error analysis for remedial purposes. More recently error analysis has assumed a developmental purpose, namely as a clue to the process of acquiring a second language. Causes of learner errors, such as interference from the first language, confusing aspects of the second language, or learners fostering their own errors, are discussed; and teacher responses appropriate for the error type are suggested. Factors influencing the teacher's decision as to whether and when to correct are examined, i.e., the available information about the error, the importance of correction, the ease of correction, and the characteristics of the students. Then the teacher's options as to specific treatment for correcting errors are considered. Finally, some reservations about error analysis are entertained. (Author)

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ERROR ANALYSIS AND ERROR CORRECTION WITH RESPECT TO THE TRAINING OF LANGUAGE TEACHERS[1]

Andrew D. Cohen

For years error analysis has been conducted for remedial purposes (Lee, 1957). Language teachers have been noting their students' errors--even classifying them into categories and using them as a basis for preparing lessons and materials in the classroom. More recently, error analysis has assumed a developmental purpose. Developmental error analysis has as its principle goal that of understanding the second language learner's strategies and only secondarily concerns teaching (Corder, 1974). The learner is seen to pass through a series of successive, transitional dialects of the second language while attaining competence in the language. Nemser (1971) has called these dialects "approximative systems," Corder (1967) has spoken of "transitional competence," and Selinker (1972) has used the term "inter-language."

Zydatis (1974) draws a sharp distinction between Corder's psycholinguistically oriented approach to error analysis and the more pedagogically oriented one. Whereas the notion of "error" may be irrelevant in a psycholinguistic study of the second language learner (Corder, 1973), Zydatis (1974) stresses the appropriateness of the term 'error' "in the actual teaching context, that is, as a pedagogic strategy towards reinforcing correct surface forms and inhibiting incorrect forms..." (p. 234). Clark (1975) points out that information about errors need not be regarded as punishment, but may be a form of information feedback to the learner, as well as to the teacher. Likewise, Allwright (1975) suggests that the learner really cannot learn in class without knowing when an error is made (either by him or by someone else). Allwright feels that the burden is on the teacher to be a source of information about the second language and to react to errors whenever it seems appropriate to do so.

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This article will deal primarily with pedagogical applications for error analysis and error correction and is addressed to foreign language teachers, second language teachers, and teachers of speakers of nonstandard dialects. All three groups of teachers confront errors in class on a daily basis. This article will review literature on and will discuss (1) reasons for learner errors in a second language, (2) ways in which error analysis can help teachers, (3) approaches to the correction of errors, and (4) reservations about error analysis.

Reasons for a Learner's Errors in a Second Language

There appear to be at least seven broad causes for a learner's errors in acquiring a second language. Unfortunately, there has been relatively little consensus as to the terminology for labeling error categories.

1. The Learner's First Language Gets in the Way. Some errors are considered the result of direct influence from the learner's first language. A

learner is said to be "thinking in his own language" when he produces syntactic or lexical errors. Terms such as "interference" (Weinreich, 1968), "interlingual" errors (Richards, 1973b), and "language transfer" (Selinker, 1972) have been used to refer to these errors. Whereas Brooks (1964) speaks of interference resulting from "dissimilar patterns in the target language," Nickel (1971) points out that interference may also arise where there is partial agreement across languages. Banathy and Madarasz (1969) note that the extent of difference between the first and second languages doesn't necessarily determine the difficulty in learning a structure in the second language.

2. The Second Language Has Inherently Confusing Aspects. Features of English which could pose a problem for any learner of English as a second language have been referred to in a variety of ways:

a. "intrinsic difficulties in English" (Whitman and Jackson, 1972).
b. "anomalies in the new language" which constitute exceptions to the rules (Brooks, 1964).
c. "intralingual" problem areas, such as rule restrictions (Richards, 1973b).
d. "defects" in the second language which don't permit successful production of rules (George, 1972).
e. confusing "redundancies" in the second language (George, 1972).
f. aspects of the new language which lend themselves to overgeneralization or reorganization of the linguistic material (Selinker, 1972; Richards, 1973b; Taylor, 1974).

An example of such an "intralingual" feature of English would be the restrictions on the distribution of the verb, "make." Whereas one can say, "I told him to do it," it is not acceptable to say, *"I made him to do it."

3. The Teacher and/or the Course Materials Unintentionally Promote Errors. One recurring theme is that the teachers and/or the second language materials unintentionally present to the learner a selection and sequencing of material in such a way as to promote errors (Lee, 1968; George, 1972; Richards, 1973a). Lee (1957) refers to "interference" (false generalizations and analogies) based on what has already been taught. Nickel (1971) suggests that these "intrastructural generalizations" result from the chronology of learning. George (1972) further suggests that the rules may not be clear from the material as presented. He notes, for example, that language forms may not be learned because they appear to have little meaning or because they seem to occur randomly--with no apparent system.

The above sources of error could all be by-products of a written curriculum. Yet too little is known about the process of second-language acquisition--particularly among young learners--to know which sequences of structures would best avoid what George (1972) calls "cross-associational" problems and what Selinker (1972) terms "transfer of training." It may be that certain items in a curriculum will interfere with one another under certain circumstances, e.g., if only a short time elapses between the presentation of the two items, or if one of the items is less familiar to the learner than another, or if the order of presentation of the two items is reversed when the items are reviewed.

There are also errors that are considered to be engendered largely by the teacher. For example, the teacher may encourage cross-associational interference by introducing two somewhat different sets of modifiers with the same nouns: "enough tea," "enough bananas"; "a few bananas," but not *"a few tea"; "much tea," but not *"much bananas" (George, 1972). For more examples, see Stenson (1974).

On the one hand, teachers may indulge in over-drilling (Nickel, 1971); on the other, they may under-drill or provide too little input data in cases where the inherent difficulty of the structures warrants careful and/or repreated presentation (Brooks, 1964; George, 1972). Lack of repetition of certain forms may suggest to the students that the forms are just not worth learning, particularly if they are difficult.

Teachers may also encourage errors by putting students on the spot. For instance, a teacher may ask students to give impromptu speeches or otherwise provide them too little structure and/or preparation time. The students may resort particularly to "thinking in their own language."

4. 'Errors' Are Nonstandard Forms. Some errors are actually nonstandard dialect forms prevalent in the society. They may be viewed as viable, logical, and respectable features of linguistic systems at variance with standard English (Cohen, 1975, Ch. 8). Thus, the omission of the copula, as in "They real happy," or the dropping of the third person -s marker in "He go home at three every day" in the speech of a learner of English as a second language may reflect contact with speakers of nonstandard English.[2]

5. Learners Foster Their Own Second-Language Errors. Some errors are considered to be brought on by the second language acquisition strategies employed by the learner in his effort to reduce the learning burden. First, the learner designs his own way of learning the curriculum. Such strategies have been called "strategies of second language learning" (Selinker, 1972) and "strategies of assimilation" (Richards, 1973a). These strategies include rule simplification (Selinker, 1972; Robinson, 1973; Taylor, 1974) and incomplete application of rules (Richards, 1973b). It has been pointed out that students have different learning styles; for example, some may be "data gatherers," while others are "rule formers" (Hatch, 1974). Jakobovits (1970) points out that some second-language learners are also weak in a particular area of grammar in their first language, perhaps one explanation for the kinds of "unique" errors that Dulay and Burt (1974) have found among second language learners.

Second, the learner fashions his particular way of communicating with others in the second language (Selinker, 1972). Richards (1973a) suggests that each second-language learner uses his own optimal utility grammar for conversing with others. Underlying both the strategies for coping with the curriculum and for conversing with others is the notion of transitional competence (Corder, 1967). It is presumed that many learners' errors will disappear as the learners have more of an opportunity to experiment with the language--i.e., as they keep reformulating their second language acquisition hypotheses (Robinson, 1973).

Also, each student's own language aptitude, intelligence, and motivation to learn the second language will have an effect upon communication strategies

(Jakobovits, 1970). Gardner and Lambert (1972) have pioneered research on the relationship between attitudes toward the speakers of a second language and acquisition of that language. They have suggested that reasons for learning a second language will affect acquisition of the language. For example, in certain cases, a more successful speaker of the second language may be one who has a favorable "integrative" or social orientation toward the local speakers of that language, while in other cases, learners with a favorable "instrumental" or economic orientation toward the language (e.g., to get a better job) may achieve greater fluency in the language. These distinctions are somewhat simplistic, but they do have implications for error analysis nonetheless. For example, a student who is learning a second language specifically to improve his employment status may be more meticulous about trying to avoid errors. However, such a proposition should be tested empirically.

6. Errors are Merely Careless Mistakes. Errors may simply be the incorrect realization of forms that the student has learned--i.e., forms that are part of his linguistic competence, but which are incorrectly produced through carelessness or a slip of the tongue or pen. Such mistakes are also found in the language of native speakers.[3]

The causes for careless mistakes are numerous. The student may have a memory lapse, be in a state of fatigue, or be temporarily inattentive to his speech for reasons other than fatigue (Jakobovits, 1970). Robinson posits an "expressivity" hypothesis for the production of incorrect forms. He suggests that "the intensity of emotive and intellectual attitudes influences the choices of one form over another, the proportion of correct to incorrect forms being related to the extent the learner wishes to involve himself in the situation" (Robinson, 1973, pp. 193-194).

Holley and King (1971) provided empirical evidence that the teacher had the power to heighten or decrease the kind of classroom tension that produced errors in German. When teachers allowed a 5-10 second wait time before either cutting off a student's supposedly incorrect response or providing a correct response when the student hesitated, over 50% of the time the response came out correct after all. The authors concluded that "the teacher's pause and his concomitant non-verbal expectation of student performance seemed to create a class atmosphere conducive to response. Moreover, the time interval allowed students did not produce as much tension as the practice by which the teacher supplied correct answers" (Holley and King, 1971, p. 497).

7. The Cause of Errors is Unclear. It may be presumptuous to assume that every error has some clear-cut reason behind it. The causes of certain errors may be "ambiguous" (Dulay and Burt, 1974). Error analysis sometimes yields a few plausible reasons for an error--e.g., interference from the first language, the influence of non-standard dialect, and transitional strategies for learning the curriculum and for conversing (see Cohen, 1975, Ch. 8).

Recent studies have attempted to quantify the extent to which one or another source produces errors (see, for example, Dulay and Burt, 1972, 1974; Cohen, 1975; Suwatthigul, 1973; Khampang, 1974; Whitman and Jackson, 1972; Olsson, 1972; Banathy and Madarasz, 1969). Generally, studies have reported that syntactic errors caused by interference from the first language play a

lesser role than other factors, a move away from an earlier trend to attribute many errors to such interference. Pronunciation errors may be more reliably explained by the theory of contrastive analysis (a theory based on cross-language interference) than are errors in syntax and lexicon for a good reason. The learner has no choice as to the sounds that are to be used in the words he selects. Whereas it may be common to paraphrase in order to avoid syntactic and lexical problem areas (Schachter, 1974), avoidance of words with certain sounds is probably much less common.[4]

Finally, the nature of the language learning context may affect the intensity of various kinds of errors. For example, a learner may experience more interference from his first language when not in an environment where the second language is spoken out of school (Ervin-Tripp, 1974). Also, interference from the first language and strategies of second-language learning and communication may produce more forms that become pidginized or fixed in an erroneous form if there is less contact with native speakers of the second language (Dumas, Selinker, & Swain, 1973).

This section has identified at least seven possible explanations for errors--L_1 gets in the way, L_2 has inherently confusing aspects, the teacher/course materials promote errors, errors are really nonstandard forms, L_2 errors are fostered by the learners, errors are careless mistakes, and the catch-all category, "unclear." The next section will discuss what the teacher might do with these insights.

Ways in Which Error Analysis Can Help Teachers

First, teachers can use error analysis to determine a learner's current interlanguage performance (Corder, 1974). From the errors a learner makes, the teacher may be able to describe the language system that the learner has created. The learner could even by described as a "native speaker" of his own idiosyncratic dialect (Corder, 1973). It has actually been suggested that the term "performance analysis" should replace "error analysis" because "although the study of errors is a natural starting-point, the final analysis should include linguistic performance as a whole, not just deviation" (Svartvik, 1973, p. 8; also see Hammarberg, 1974).

Richards (1973a) states that teachers are not as interested in causes of errors as in correction. Teachers in training may initially consider error analysis to be too time consuming. Yet the very same teachers may actually go on to waste extra time in misguided error correction procedures in the classroom. Error analysis can help the teacher to choose the best means of dealing with an error in the classroom. The approach would vary according to the reason for the error:

1. If the error analysis reveals that a student's error is caused by interference from the first language, then the teacher can place extra emphasis on the difference between the target and the native languages with respect to that feature.

2. If the error is a result of inherently confusing aspects of the second language, then the teacher would point out rules that are perhaps somewhat

reliable or partially predictable (Burt and Kiparsky, 1972).

3. If the errors can be traced to sequencing of materials by the teacher and/or the course materials, the teacher might try to double back over the material in a remedial way. Richards (1973a), however, is not sure that separating conflicting forms is enough because too little is known about the actual nature of the process by which a language item becomes part of the speaker's competence.

4. If the "error" is found to be a recognized nonstandard form, then the teacher can discuss the appropriateness of the form for the given situation or level of formality.

5. If the error is considered a product of second-language-learning or communication strategies, the teacher may not feel such a need to correct the form. He would consider it part of the learner's normal experimentation during this stage of transitional competence. The correct form would be expected to appear automatically (Dulay and Burt, 1974).

6. If the error is a careless mistake (i.e., it doesn't reoccur or occurs only rarely among frequent correct realizations of the form), the teacher may just wish to ignore it.

Approaches to the Correction of Errors

1. Deciding Whether and When to Correct. Teachers are admonished not to overcorrect (Dresdner, 1973). They are told to allow some "goofs" for the students to practice and improve (Burt and Kiparsky, 1972). But how many corrections should they make and when? George (1972) speaks of "the economics of intervention," and suggests that teachers budget their corrections to profit the students the most. What criteria should teachers use for deciding what corrections to make when? In reality, the teacher has to consider at least four dimensions at the same time: the adequacy of information about the error, the importance of correction, the ease of correction, and the characteristics of the students (Allwright, 1975).

a. Basic Information About the Error: The teacher needs to know what was actually said or done, by whom; what was meant; what should have been said or done; and (possibly) what the native-language equivalent would be (Allwright, 1975). Sometimes the teacher doesn't hear accurately or even remember just what the student said, or hears the utterance but automatically corrects it in his own mind. Also, the selection of an appropriate correction usually depends on a correct interpretation of what the student meant to say. The teacher could actually use the sort of "instant replay" that television coverage provides in a basketball or football game, for example, in order to go back and verify what really happened. But such videotape coverage of the classroom is usually impractical except for limited periods of time.

b. The Importance of Correction

1) Errors affecting intelligibility. Burt (1975) distinguishes "global" errors, errors affecting the overall sentence organization (e.g.,

wrong order; missing, wrong, or misplaced connectors, etc.), from "local" errors, errors affecting only single elements in a sentence (e.g., noun and verb inflections, articles, auxiliaries, etc.), and she reports that native speakers of English had more difficulty understanding foreign student utterances possessing global errors than those with local errors. Burt suggests that a teacher should work primarily on the correction of global errors. Olsson (1972) also conducted an investigation to see what kinds of deviances by nonnative speakers most impaired intelligibility for native English speakers. She found that generally semantic errors blocked communication more than syntactic ones, and that what she categorized as "semantic errors with unrevealing syntactic deviances as well" were most difficult to interpret. The classroom teacher, however, is generally not able to confer with a team of native judges on the spot.[5] Instead, he must use his own best judgment.

2) High-frequency errors. Errors which occur frequently have been considered important enough to correct (Dresdner, 1973; Allwright, 1975). But if such errors are minor, George (1972) feels that their correction may only serve to annoy the learners and to waste class time.

3) Errors at a high level of generality. It has been suggested that errors involving general or broad grammatical rules are more deserving of correction than those dealing with, say, a grammatical exception or a lexical item (Johansson, 1973).

4) Errors with stigmatizing or irritating effects. Even if an error doesn't affect intelligibility or occur very often, it could still be worthy of remediation because of the stigmatizing effects that it has on the listener or reader (Sternglass, 1974). With utterances such as "How you feel today?" "I want that you feel well soon," and "What means this in English?" the meaning is perfectly clear, but their production signals imperfect command of English. It has also been pointed out that errors can "make the listener tired or irritated or draw away his attention from the contents of the message . . . and thus have serious effects in communication even though the message is comprehensible" (Johansson, 1973, p. 110).

It has been said by Gerhard Nickel[6] and others that the issue is more one of sensitizing the listener to accepting errors in speech rather than one of correcting those errors. However, as long as nonnatives are hired or fired on the basis of their command of the language, as is sometimes the case, a certain premium need be put on avoiding stigma and irritation to the listener.

5) Errors affecting a large percent of the students. Some sources suggest that only errors common to the whole class are deserving of class time for correction (Holley and King, 1971; Olsson, 1972). The number of students affected by an error may vary not only with respect to the native language of the learner, but with respect to his learning style and other characteristics mentioned in "d" below.

6) Errors that are relevant to the pedagogic focus. The importance that a teacher attributes to an error may depend on the objectives of a particular lesson. For example, a teacher may let an error of verb tense go uncorrected during a lesson in which he is explicitly teaching and correcting for appropriate article usage.

c. The Ease of Correction: How easy it is for the teacher to correct the error may depend on the teacher's competence (e.g., knowledge of grammatical structure, facility with the different correction procedures, etc.), the resources available (e.g., audiovisual aids, reference texts, etc.), and time available. Analysis of taped transcripts from the ESL classroom has led Allwright (1975) to conclude that many teachers are unreliable, unfair, and inconsistent in their treatment of errors. He attributes this behavior to the fact that the teacher is called upon to make on-the-spot, public summations of classroom situations and to select a treatment type and specific correction procedures, while concurrently taking into consideration the characteristics of the students involved. Mehan (1974) concludes from an analysis of videotaped classroom interaction that "the teacher's attention is demanded in too many places to make rationally calculated, statistically valid decisions during the flow of conversation..." (p. 113). He suggests that as a lesson gets underway, the teacher's standard for performance changes according to the events within the situation. He feels that the teacher's differential treatment of answers is "a natural feature of the constantly changing course of the teaching-learning situation" (Mehan, 1974, p. 128).

d. The Characteristics of the Students: The teacher's treatment of error correction might also be influenced, consciously or unconsciously, by his perception of various student characteristics, such as:

1) Individual differences, e.g., personality type, first language, culture, cognitive style, intelligence, aptitude, etc.

2) Past history, e.g., academic record, errors previously observed, treatment types previously used, etc.

3) Current state, e.g., motivation, anxiety level, arousal level, fatigue, etc.

2. The Nature of Teacher Correction. Assuming that the teacher doesn't simply ignore errors, he has a series of choices to make in his treatment of them:

a. whether to treat them immediately or to delay treatment.

b. whether to correct the error-maker directly or to transfer the treatment to another individual, sub-group, or the whole class.

c. if the treatment is transferred to others, whether to return to the original error-maker to see if he is now aware of his error and how to correct it.

d. whether the teacher or another learner provides the correction treatment.

e. whether to test for the efficacy of the treatment.

The correction process itself would probably have some of the following features: indication that an error was committed, identification of the type of error, location of the error, mention of who made the error, selection of

a remedy, provision of a correct model, the furnishing of an opportunity for a new attempt, indication of improvement (if applicable), and the offering of praise (Allwright, 1975).

Perhaps the chief difficulty in identifying errors is determining what constitutes "correct" language. The non-native learner may confront a double standard in the schools. For example, an ESL teacher in California may tend to identify "errors" by reference to a model (i.e., a standard register of English, such as that of T.V. commentators reading from a script), but to assess performance by reference to the local register that they use (i.e., informal school talk). Robinson (1973) underscores the arbitrariness of norms for correct discourse. Furthermore, the language activity in which the form occurs (e.g., free speech, oral or written translation, dictation, free or guided writing, forced-choice completion exercises, etc.) will have a bearing on the kinds of error that occur and on their relative frequency (Olsson, 1972).

There are now beginning to appear works on error analysis which provide error categories and even discuss ways in which the classroom teacher can remediate errors (see, for example, Burt and Kiparsky, 1972; George, 1972; Richards, 1973b; Wyatt, 1973; Bhatia, 1974). However, Holley and King (1971) call the classroom "an unnatural environment" in that learners are corrected for grammar, and contrast it with "the natural language learning context," where the second language learner is given a chance to try out his language and is corrected only for intelligibility.[7] They say that if the learner makes a grammatical error, the teacher should confirm the facts and then repeat the correct grammatical structure. Also, they feel that a grammatical explanation must be followed by a drill if it is to be effective. Yet Corder (1967) warns that drills will be effective only if the learners have mastered the systems which generate that utterance for a native. Gorbet (1974) suggests that whereas drills are the most effective tool for facilitating quick automatic responses and help the learner formulate L_2 hypotheses, a drill is not effective in eliminating errors because it does not facilitate communication and "does nothing to aid the student in adjusting his hypotheses" (p. 61).

Gorbet thus distinguishes between formulating and adjusting hypotheses, and doesn't view drills as a tool in correcting errors so that the errors don't come back again. Holley and King (1971) are perhaps more optimistic about the role that drilling can play in remediation, but they are cautious. First of all, they recommend that the teacher use interim rules for explaining an error until the learner is ready for full rules. They give an example related to the teaching of German. Students are first taught that with a modal, the second verb is at the end of a clause; then this rule is modified later when the perfect tenses and transposed word order are introduced. This approach might avoid the situation referred to above, where the learner with an incomplete rule system cannot generate the utterance (Corder, 1967). There does, however, seem to be somewhat of a consensus that explicit statement of rules can be helpful--e.g. in avoiding false generalizations that are inferred from an inadequate set of examples (Clark, 1975; Macnamara, 1973).

The classroom teacher can, of course, help to prevent the occurrence of errors in the classroom, making drills unnecessary. As mentioned above, Holley and King (1971) found that a 5-10 second wait time before either supplying a hesitating student with a response or cutting off a student before he completed his utterance eliminated--over 50% of the time--the need for teacher intervention at all. This suggests that classroom errors may decrease as teachers lower the level of tension in the classroom. The authors further suggest that if wait time alone doesn't produce a correct student answer, then careful drilling, such as rephrasing of the question, cueing the learner with a word or phrase, or giving a full or partial sample sentence, might provide the necessary stimulus.

The following are examples of how the teacher can rephrase, cue, or otherwise help the students generate simple sentences that are correct:

1. Rephrasing the question.
   Teacher: Why did they come home so early?
   Student: They . . . (hesitation).
   Teacher: Why were they so early?

2. Cueing.
   Student: He has . . . there (pause).
   Teacher: Work, worked . . .
   Student: Worked. He has worked there.

3. Generating simple sentences.
   Teacher: What has the boy just done there?
   Student A: He has . . . there (pause).
   Teacher: What kinds of things can he do? He has . . .
   Student A: Played. He has played there.
   Student B: He has eaten there.

In the third instance, the teacher senses when the student is unable to answer a very specific question and correspondingly eases the constraints to allow a wider range of acceptable answers.

George (1972) stresses that forms must always be corrected in a realistic context. He also notes that the teacher shouldn't require imitation but should simply present his version. This is consistent with Holley and King's suggestions, which are also intended more to prompt than to elicit exact repetition. Corder (1967) even suggests that instead of supplying a correct response, the teacher should just hint at the correct form or supply it indirectly (as parents do for children). In this way, the learner will be using the process of discovery, whereby he makes inferences, formulates concepts, and alters his hypotheses. The above sample drills might still be too direct a form of correction in Corder's schema. Actually, Corder (1974) would really hope that the teacher could relate correction to the student's language learning strategies. Except with small groups of learners, however, the teacher is unlikely to be able to do this.

Some curricula have actually developed standard protocols for correction of students' second-language utterances, so as to assure a consistent pattern of correction. One such curriculum, for primary school children, has the

teacher ask for peer evaluation of a student's response, followed b
verification of the evaluation. If the student's response is incor
teacher then follows a specified set of steps in correction. For e
a student makes an error, the teacher models the correct answer and
mediately presents the learner with the same task over again. If t
still produces the incorrect form, the teacher isolates the difficu
it twice, and then models the entire response twice in its correct
then has the learner imitate the correct, complete, model. If the
still fails to form the correct response, the teacher models the ex
sponse once, and then presents a new task to a different learner (C
Wilson, 1973, for more on the curriculum in general).

Teachers have different ways of signaling to the learner that
duced an error. One polite way of letting a student know that he h
an incorrectly formed utterance is by asking, "Would you please rep
This approach is deliberately ambiguous. The student isn't sure wh
teacher didn't hear what was said or is simply asking for an improv
The result is that the student doesn't feel like he has been direct
rected, and thus the teacher has provided him a way of saving face.

Another means of indicating an error without saying so verball
pointing to an X which is prominently displayed on a card attached
letin board in the classroom. This gesture lets the student know t
has been a mistake in what he has said and that he should correct h
he can (Personal Communication with Marianne Celce-Murcia).

As Gorbet (1974) warns, however, correction of speaking errors
hibit a learner: "As we have seen, it is not uncommon for students
or even abandon what they want to say in an effort to say it correc
the teacher's satisfaction. The end product may be correct in the
sense, but it is inadequate from the viewpoint of communication" (p
Thus, teachers probably need to pay close attention to their oral c
procedures, in order to make the most out of their interventions.

It is also worth considering that teaching strategies which re
public correction of errors may be unproductive with students from
in which the learner performs a new skill only after he has perfect
private. Susan Phillips' work on the Warm Springs Indians illustra
point (Phillips, 1972).

Burt and Kiparsky (1972) suggest that in correcting compositio
a teacher might use different color inks in order to distinguish th
portant from the less important errors. Farnsworth (1974) would ev
mend that the teacher tape a discussion of student composition erro
cassettes provided by the students, as a means of insuring that the
will remember the comments.

It has been suggested that a language teacher should have a re
learner's errors in the second language at the beginning, intermedi
advanced stages of language acquisition (Lee, 1957). This type of
said to help distinguish persistent errors from passing ones, as we
ing attention to the intermittent reappearance of seemingly eradica

(a phenomenon which Selinker, 1972, refers to as "fossilizable structures"). The teacher has also been advised to note the context in which the error occurs, since some errors may be conditioned by surrounding forms. The teacher is also asked to note the frequency of correct occurrences of forms which sometimes or often appear as erroneous in order to determine the relative frequency of correct and incorrect occurrences.

As part of an investigation of interlanguage performance and the effects of correction, I did an after-the-fact analysis of the written work of three Chinese students in an advanced ESL course that I had taught. All written verb forms over the 10-week course were examined carefully to see just how the deviant verb forms were treated in grading the papers and to determine the effects of teacher correction on error eradication. The main finding was that the procedure of returning papers to students without charting the error types over time had rendered accurate diagnosis of student problems virtually impossible. Real problems either appeared as non-problems or as random rather than systematic.

As an example of an apparent non-problem, the investigation revealed that one student had avoided the present perfect tense continually, and did so in at least three contexts where it was called for. In the second week of the course, she wrote, "Now we lost the sense of belonging because we can't follow our customs..." In correction, "have" was inserted before "lost" and the word "tense" was written in the margin, but no specific reference was made to the present perfect tense. A week later she wrote, "Til now, there is no acceptable written explanation," and 2 1/2 weeks after that, "Lots of authorities create many methods...," implying by context the present perfect tense. Neither of these later uses of the verb were corrected. Perhaps only an ongoing analysis of deviant forms would have helped me and my two teaching assistants to spot this tense problem.

An example of supposed randomness in errors can be seen in the case of another student who inflected the main verb following a modal about 25% of the time, e.g., "Man can develops his intelligence" (second week of course), "He may finds himself alone" (fourth week of course), "The appetite will never ceased to satisfy them" (tenth week of course). An ongoing record of errors would have indicated the system in this pattern which appeared to be random. When the errors were corrected, the inflection on the main verb was underlined or crossed out, but without specific explanation to the learner. Several times the error wasn't noted at all.

Although this investigation corroborates Lee's suggestion that teachers keep records, there is no doubt that such a process can be very time consuming, particularly for teachers with large classes. However, teachers could keep a copy of past student assignments on file to refer to when trying to diagnose "new" errors that appear. Or they could request that students periodically hand in their past work organized chronologically. If time permits, the teacher could chart certain types of errors regularly, say, those relating to the pedagogic focus of the class at the time, instead of trying to maintain a complete inventory of errors.

Whereas conscientious teacher correction of students' errors may be a necessary part of the learning experience, it is probably not sufficient. In

other words, teacher correction alone, even when based on careful diagnosis, may not change error patterns very noticeably. Actually, student self-correction and peer correction may do more to eradicate errors than teacher correction. While the merits of these approaches are in need of empirical validation, George (1972) feels that with respect to written work at least, students may learn more from correcting their own errors than from having them corrected by the teacher (George, 1972). The students could be encouraged to go over their work several times--once to check for subject-verb agreement, once for articles, once for punctuation and capitalization, etc. Then the penalty would not so much be for errors, but for letting them remain after a systematic check should have removed them.

Students could also be requested to correct each other's errors. Such an approach might also improve the students' ability to recognize errors. The students' grade on the composition or dictation, say, could consist both of their own performance and of their accuracy in correcting other students' papers.

It is possible to have students correct each other's oral language errors, although fellow classmates tend to pay more attention to a message than to its grammatical form. Thus, they may provide better lexical than grammatical corrections. Also, fellow learners may have listening comprehension problems such that they don't notice that, say, a third person singular -s marker was omitted, whereas they would notice it in a written composition.

With respect to the correction of errors among young learners, it may be that children under 7 or 8 do not benefit at all from adult correction of their language. Ervin-Tripp (1974) suggests that not until age 7 or 8 are children ready to learn syntactic rules through correction. Milon asserts that teachers can't instruct, model, and provide feedback for young second-language learners: "The teacher can not provide the child with appropriate strategies, heuristics, etc., because no one knows how to formulate them" (Milon, 1974, p. 143). He feels that children will learn best from native peer models of the second language. He suggests, for example, that an ESL classroom for young learners should have native speakers in it. One primary-school program of Spanish "immersion" for Anglo learners does introduce native Spanish-speaking peers into the classroom, and formal correction is avoided until about grade 3 (Cohen, 1974).

Reservations About Error Analysis

This article has provided some justification for training prospective language teachers in techniques of error analysis. It has been argued that error analysis helps the teacher determine the stage a student has reached in his second language learning. Knowing the source of an error also helps the teacher to choose the best means of dealing with the errors. It would be misleading, however, to suggest that analysis of errors is a panacea in the classroom. Certainly extensive error analysis calls for more time than is available to the average teacher. However, "everything in moderation" is an expression that perhaps applies well to a teacher's use of error analysis. This paper will end with mention of some reservations about error analysis to help keep the technique in proper perspective:

1. Does Error Analysis Give the Teacher a Good Feel for the Learner's Linguistic Competence? Schachter (1974) refers to the foreign student's tendency to avoid producing structures he doesn't comprehend in the target language. She distinguishes CA apriori, the point by point analysis of some subsystem of two languages before data analysis, from CA aposterirori, the comparison of two languages only to understand why a given error occurred in error analysis. She performed both CA apriori and CA aposteriori on compositions from Persian, Arab, Chinese, and Japanese university students. Apriori analysis suggested that since in Chinese and Japanese, relative clauses only occur to the left of the head NP, while in Persian, Arabic, and English they occur only to the right, Japanese and Chinese students would be expected to have more difficulty with these forms than Persian or Arab students. However, error analysis showed that Chinese and Japanese students produced only half as many errors as did the Persian and Arabic students. But the data also revealed that whereas Persian and Arab students used almost as many relative clauses as a native-English-speaking control group, the Chinese and Japanese students used fewer than half as many.

Schachter concedes that CA aposteriori would explain Persian and Arab students transferring their native relative clause patterns to English in toto, instead of pronominalizing the NP relativized into (e.g., "activities which they are hard"). But she points out that only CA apriori would reveal the phenomenon of avoidance practiced by the Chinese and Japanese students. She comments as follows: "I regard the CA aposteriori hypothesis as untenable and think it should be abandoned" (Schachter, 1974, p. 213). She suggests that CA apriori predictions be used along with error analysis, since she agrees that CA apriori doesn't account for all learners' problems. Schachter further underscores the importance of testing for comprehension as a complement to any analysis of learners' utterances and written work, so as to distinguish lack of difficulty with certain forms because they are mastered vs. lack of such forms because the learner is having such difficulty that he refuses to produce them.

Varadi (cited in Gorbet, 1974) also asserts that the learner, being aware of his gap in the target language, consciously tries to compensate for his deficiencies by means of various communication strategies. Varadi identifies three strategies--message abandonment, formal replacement, and message adjustment. In message abandonment, the learner doesn't say anything, rather than make an error. In formal replacement, the learner resorts to word coinage (e.g., "air ball" instead of "balloon"), circumlocution (e.g. "special toy for children" instead of "balloon"), or description (e.g., "they were filled by gas, bowls which are very light and flying" instead of the correct word, "balloon"). In message adjustment, the learner resorts to generalization (e.g., "go" instead of "dash off") which results in a loss of detail and subtlety, or to approximation (e.g., "rope" instead of "clothesline").

2. Does Correction Run Contrary to the Natural Language Learning Process? It may be that learners are not ready to learn certain forms at the stage when the curriculum and/or teacher introduces them. Sometimes, sequencing and pacing of elements in a second language course is rather arbitrary. More research is needed to determine whether the learner's built-

in language learning sequence differs from that of the teacher or the curriculum writer (Corder, 1967).

3. Does Error Analysis Put Too Great a Premium on Error-Free Speech? Asher et al. (1974) have found that an immersion approach to second-language learning, called Total Physical Response, using imperative forms to achieve listening fluency before reading, speaking, and writing, has produced high spontaneity among adults. However, there are also many errors in speech. A sample course might run for two semesters, three hours once a week. Students apparently start talking willingly after 10 hours of listening to the teacher.

Is it too much to expect a beginning or intermediate language course to produce students with high communicative ability as well as high grammatical precision? If so, perhaps teachers will have to select priorities, and the trend seems to be in favor of communicative competence (see Savignon, 1972). All the same, isn't there more to learning a language than oral spontaneity? Doesn't the teacher have some responsibility to help the student improve his written and oral intelligibility and decrease high-frequency errors? Shouldn't the teacher at least help the student reduce his output of errors that will stigmatize him?

These and related questions about errors, error analysis, and correction of errors, should be discussed in a teacher training program for prospective second-language teachers because, one way or another, the teacher will have to confront them in the classroom. The teacher will probably wish to find some intermediate point on a continuum which has at one extreme a demand for absolute correctness and at the other extreme, absolute spontaneity without correction. The teacher's approach may depend largely on the nature of the students (e.g., their reaction to correction), the teacher's personality and cultural background, and the nature of the curriculum. Some teachers may wish to handle correction mostly on an individualized basis, while others may wish to concentrate more on total class correction.

FOOTNOTES

[1]I wish to thank Marianne Celce-Murcia, Lois McIntosh, Pit Corder, Robert Cooper, Judy Wagner-Gough, Tobey Wiebe, and Tom Gorman for their comments on earlier drafts of this article.

[2]However, unless contact with non-standard speakers is extensive, errors such as -s deletion may only coincidentally parallel dialect forms and may actually be caused by other factors discussed in this section.

[3]Careless errors are to be distinguished from performance errors which may appear careless, but which actually reoccur systematically (Celce-Murcia, 1973).

[4]In describing the simultaneous acquisition of French and English by her 2 1/2-year-old daughter, Marianne Celce-Murcia noted that at times her daughter would borrow a word from the other language rather than using a

word with a sound that she hadn't mastered. For example, instead of saying "knife" which had an f she hadn't learned, she would substitute couteau (Presentation by Celce-Murcia at the Second Language Acquisition Pre-Convention Workshop, 9th Annual TESOL Convention, Los Angeles, March 4-5, 1975). This then could be considered a form of phonological avoidance on the part of a young bilingual learner.

[5]Such an approach may be especially difficult for teachers of foreign languages in cases where native "judges" are in short supply locally.

[6]Linguistics Colloquium, UCLA, April 6, 1973.

[7]Whereas in the U.S. natives may, as a rule, refrain from correcting non-native speakers' errors that do not affect intelligibility, it was pointed out to me that in other parts of the world (e.g., Israel), there may be more of a tendency to correct the errors of non-natives even if the message is intelligible (Personal Communication with Robert Cooper).

[8]This approach was used effectively by an ESL instructor at UCLA.

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